	Approved For Rel	ease 2008/10/27 : CIA-RDF	78B03824A0009000300	060-9		
		CLASSIFIED MESSAG	E RO	ROUTING		
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	TOP SECRET I	HANDLE VIA TALENT-KEYHO	LE CONTROL SYSTEM	7410		
	ATTENTION:					
	REF: TELECO	N 30 SEPTE	MBER 1970			
	1. FOLLOWING	G IS A PROCEDURE TO CON	VERT YAW VALUES IN A	GEOCENTRIC		
	INERTIAL SYS	TEM (AS REPORTED IN THE	DATA) TO	YAW VALUES		
	IN A LOCAL V	ERTICAL SYSTEM RELATIVE	TO THE GROUND TRACK	VELOCITY		
	VECTOR AS DI	SCUSSED IN REF.				
	2. THE MATH	EMATICAL TECHNIQUES FOR	THIS TRANSFORMATION	CONSIST		
	OF AN ORTHOG	ONAL ROTATION OF THE G	EOCENTRIC INERTIAL SY	STEM INTO		
	THE LOCAL VE	RTICAL SYSTEM. THE AND	SLE OF ROTATION IS CO	OMPUTED AS		
	FOLLOWS:					
	LET: V	EQUAL INERTIAL VELOCI	TY (FPS)			
	G	AMMA EQUAL FLIGHT PATH	ANGLE			
	A	AZ EQUAL INERTIAL AZIMU	гн			
	1	THETA EQUAL NADIR LATIT	UDE			
	i	i EQUAL ALTITUDE (FEET)				
•		COORDINATING OFFICERS				
		TODOPCETALET	AUTHER	NTICATING OFFICER		
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R EQUAL RADIUS OF EARTH (20,855,000 FT.)

OMEGA EQUAL 0.7292115E-05 (EARTHS ROTATION RATE IN

RADIANS/SEC) (NOTE EXPONENTIAL NOTATION)

THEN: VP EQUALS V COS(GAMMA) R/CR+H)

VGX EQUALS VP SIN (AZ)-R OMEGA COS(THETA)

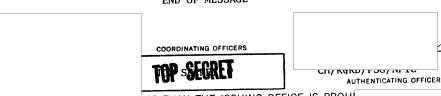
VGY EQUALS VP COS (AZ)

FINALLY:

GROUP 1 Excluded from automativ downgreding and declassification A EQUALS ARCTAN (VGX/VGY)-AZ (WHERE THE ARCTAN FUNCTION YIELDS VALUES FROM 0 TO 2 PI)

3. AFTER DETERMINING ANGLE A, THE APPLICATION OF THIS ORTHOGO-NAL ROTATION RESULTS IN A CHANGE TO YAW ONLY. PITCH AND ROLL ARE NOT AFFECTED. THUS, YAW EQUALS GEOCENTRIC YAW PLUS A.

END OF MESSAGE



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